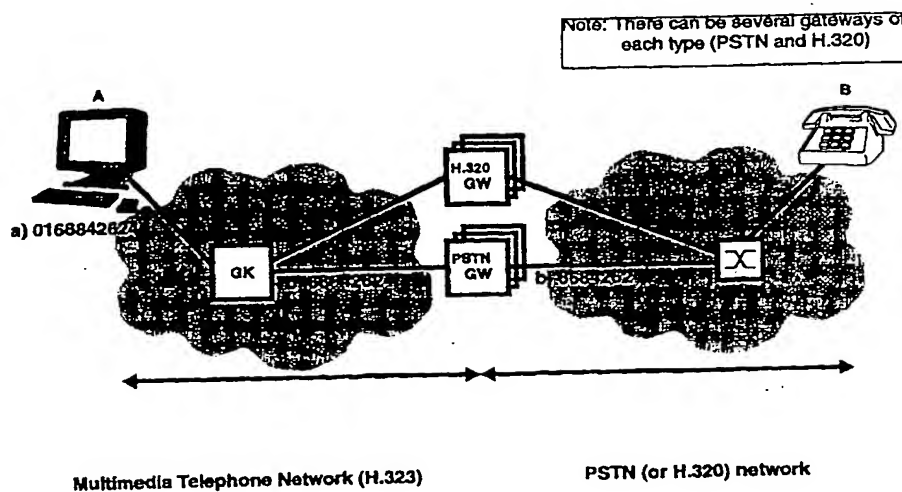




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(21) International Application Number: PCT/NO98/00330 (22) International Filing Date: 2 November 1998 (02.11.98) (30) Priority Data: 975174 11 November 1997 (11.11.97) NO (71) Applicant (for all designated States except US): TELEFONAKTIEBOLAGET LM ERICSSON [SE/SE]; S-126 25 Stockholm (SE). (72) Inventors; and (75) Inventors/Applicants (for US only): ERIKSEN, Werner [NO/NO]; Hagenbakken 7, N-1440 Drøbak (NO). HAGA, Børge [NO/NO]; Grinda 9A, N-0861 Oslo (NO). (74) Agent: OSLO PATENTKONTOR AS; Postboks 7007 M, N-0306 Oslo (NO).		(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>	

(54) Title: **METHOD FOR MANUALLY ROUTING CALLS FROM A FIRST TELECOMMUNICATION NETWORK TO AN EXTERNAL TELECOMMUNICATION NETWORK**



Propagation of addressing information for outgoing call

(57) Abstract

The present invention relates to method for manually routing calls from a terminal in a first telecommunication network, e.g. an intranet to any terminal in an external telecommunication network, the interworking between said networks taking place through one or more interworking units or so called gateways (GW), and for the purpose of establishing an easy way to tell which type of gateway to route the call to, it is according to the present invention suggested that there is added a prefix, given by the caller in the first telecommunication network, to the called number in the external telecommunication network, to inform the routing means or so-called gatekeeper (GK) in the first telecommunication network which type of gateway (GW) is best suited to handle the call depending on the related resource service level.

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METHOD FOR MANUALLY ROUTING CALLS FROM A FIRST
TELECOMMUNICATION NETWORK TO AN EXTERNAL
TELECOMMUNICATION NETWORK

5

Field of the invention

The present invention relates to a method for manually
routing calls from a terminal in a first telecommunica-
10 tion network, e.g. an intranet to any terminal in an ex-
ternal telecommunication network, the interworking be-
tween said networks taking place through one or more in-
terworking units or so called gateways (GW).

15 More specifically, the present invention relates to ad-
dressing gateway types from within a packet net-
work/intranet.

Prior art and related problems

20

New emerging standard within video and audio conferencing
now makes it possible to have audio and video confer-
ences/calls within PSTN (ISDN) networks, the internet,
intranets and Local Area Networks.

25

Since other network domains now support making audio and
video conferences/calls, the need for ways of interwork-
ing between these different kind of networks has emerged.
These interworking units are called gateways, and they
30 provide the conversions necessary (protocol, audio for-
mat, video format etc.) for endpoints/terminals residing
in different kind of networks to be able to communicate
with each other.

35 There are no limitations on the number of gateways which
can be connected to these networks, which means that an
intranet can have access to several gateways in order for
a terminal inside the intranet to call e.g. an ISDN

video-conferencing terminal. In addition, different gateways are needed for different destinations. E.g. an audio only call to an ordinary POTS telephone would use a different gateway than an audio and video call to an H.320 (ref 2) (ISDN video-conferencing) terminal.

This indicates that a call initiated from within the intranet needs to know what kind of equipment the receiving party is using. This is particularly true for calls to POTS telephones and H.320 terminals (ref 2) since both reside within PSTN network but have different features. POTS telephones support only audio, while H.320 terminals normally support video and data-conferencing as well. This in turn means that the calling party within an intranet/LAN must be able to manually route the call to the correct gateway depending on what kind of equipment the calling party knows that the receiving party outside the intranet/LAN has. This invention suggests a method for manually routing the call to the correct gateway by adding information to the called number.

Objects of the invention

A main object of the present invention is to propose a way to manually route interworking calls (i.e. over gateways) through the gateway suited for the equipment of the receiving party.

Another object of the present invention is to establish such routing in a simple but expedient manner.

Still another object of the present invention is to handle said routing information at an appropriate location in the routing path.

35

Brief summary of the invention

The above objects are achieved in a method as stated in the preamble, which according to the present invention is characterized in that there is added a prefix, given by the caller in the first telecommunication network, to the called number in the external telecommunication network, to inform the routing means or so-called gatekeeper (GK) in the first telecommunication network which type of gateway (GW) is best suited to handle the call depending on the related resource service level.

In an appropriate manner the invention suggest that said routing informing prefix comprises for example a two-digit code.

More specifically, it is according to the invention suggested that said prefix is adapted to inform the routing means (GK) that e.g. audio-only calls should be routed to a gateway suited for audio-only, while calls involving both audio and video should be routed to a gateway suited for calls involving both audio and video.

Further features and advantages of the present invention will appear from the following description of an example of an embodiment taken in conjunction with the enclosed drawing, as well as from the attached patent claims.

Brief disclosure of the drawings

Fig. 1 is a schematical drawing illustrating an embodiment of the method according to the present invention, wherein the routing of calls can take place between a multimedia telephone network and a PSTN (or H.320) network.

Detailed description of an embodiment*General description*

The invention proposes a way to manually route interwork-
5 ing calls (i.e. over gateways) through the gateway suited
for the equipment of the receiving party.

Description of solution

The solution lies in giving the user an easy way to tell
10 which type of gateway to route the call to. This inven-
tion suggests to solve this by adding a prefix to the
called number (E.164 address - ref. 3). The user adds a
two-digit code in front of the called number telling
which type of gateway is best suited to handle calls,
15 e.g. audio-only calls to ordinary POTS telephone should
be routed to an H.323 (ref. 1)/PSTN gateway, while an
H.320 (ref. 2) call involving both video and audio should
be routed to a H.323/H.320 gateway.

20 Since this is redundant information for the gateway, this
prefix will be removed by the gatekeeper before the gate-
keeper routes the call to the correct gateway.

Explanation of Fig. 1 where two types of gateways towards
25 PSTN is shown for illustrational purposes:

- a) Caller A wishes to call a person outside the intra-
net with number 66842634. The receiving party is
using a POTS telephone. The call must go through the
30 PSTN GW, since the H.320 gateway is based on video-
conferencing according to H.320 (ref. 2) and in
which case a H.320 terminal is needed on the PSTN
side to accept the call.
The caller dials 0166842634, where 01 is the prefix
35 to make the gatekeeper route the call to the PSTN
gateway.

- b) The gatekeeper looks at the prefix, sees that this is a PSTN call and routes the call to the PSTN gateway after having stripped off the prefix.

5 Advantages

The invention gives the owner of the intranet the possibility to host several types of gateways and still be able to route the calls to the correct type of gateway.

10

Broadening

The invention is not limited to the number of gateway types that can be connected from an intranet/LAN (comply-
15 ing to H.323 ref. 1) towards a PSTN network, but rather to how many types of networks can be connected to an intranet/LAN where gateways are needed to support transfer of audio/video/data-calls (e.g. internet, PSTN).

20 References

- 1 ITU-T Recommendation H.323 (1996): "Visual Telephone Systems and Equipment for Local Area Networks which provide a non-guaranteed Quality of Service"
- 25 2 ITU-T Recommendation H.320 (1995): "Narrow-band ISDN visual telephone systems and terminal equipment"
- 3 ITU-T Recommendation E.164 (1991): "Numbering Plan
30 for the ISDN Era"
- 4 ITU-T Recommendation H.225.0 (1996): "Media Stream Packetization and Synchronization for Visual Telephone Systems on Non-Guaranteed Quality of
35 Service LANs"
- 5 ITU-T Recommendation Q-931 (1993): "Digital Subscriber Signalling System No. 1 (DSS1) - ISDN User-

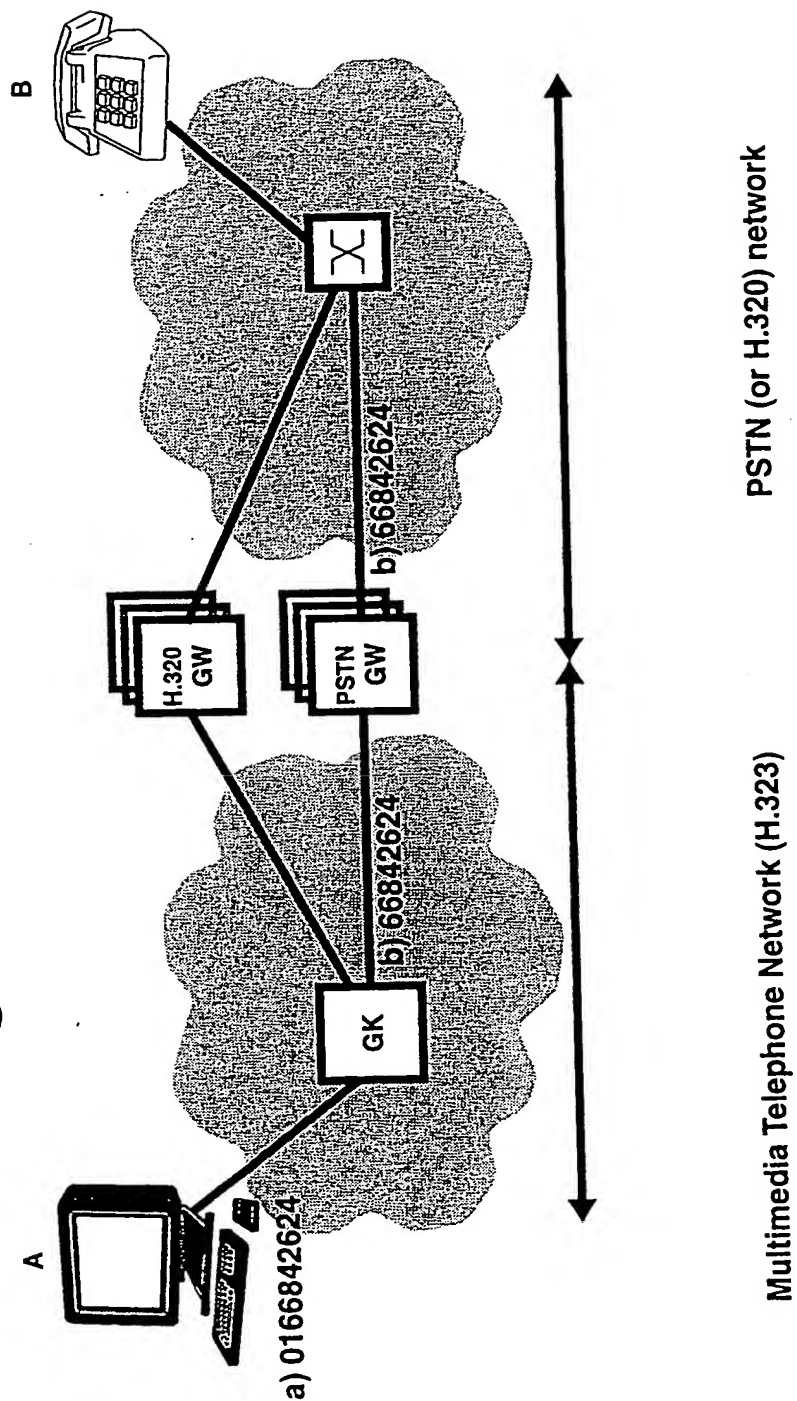
Network Interface Layer 3 Specification for Basic
Call Control"

p a t e n t c l a i m s

1. Method for manually routing calls from a terminal in
a first telecommunication network, e.g. an intranet to
5 any terminal in an external telecommunication network,
the interworking between said networks taking place
through one or more interworking units or so-called gate-
ways (GW),
c h a r a c t e r i z e d i n that there is added a
10 prefix, given by the caller in the first telecommuni-
cation network, to the called number in the external
telecommunication network, to inform the routing means or
so-called gatekeeper (GK) in the first telecommunication
network which type of gateway (GW) is best suited to han-
15 dle the call depending on the related resource service
level.
2. Method as claimed in claim 1,
c h a r a c t e r i z e d i n that said routing
20 informing prefix comprises for example a two-digit code.
3. Method as claimed in claim 1 or 2,
c h a r a c t e r i z e d i n that said prefix is
adapted to inform the routing means (GK) that e.g. audio-
25 only calls should be routed to a gateway suited for
audio-only, while calls involving both audio and video
should be routed to a gateway suited for calls involving
both audio and video.
- 30 4. Method as claimed in any of the preceding claims,
c h a r a c t e r i z e d i n that a gateway suited
for audio-only calls is for example an H.323/PSTN gate-
way, and that a gateway suited for both audio and video
calls is for example an H.323/H.320 gateway.
- 35 5. Method as claimed in any of the preceding claims,
c h a r a c t e r i z e d i n that said called number
is an E.164 number.

6. Method as claimed in any of the preceding claims,
c h a r a c t e r i z e d i n that said prefix added
to the called number to choose the most suited gateway
(GW), is removed by the gatekeeper (GK) before the gate-
5 keeper (GK) routes the call to the correct gateway (GW).

Fig. 1



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 98/00330

A. CLASSIFICATION OF SUBJECT MATTER		
IPC6: H04L 12/66, H04L 12/18 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC6: H04L, H04M, H04Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
SE,DK,FI,NO classes as above		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
EDOC, WPIL, JAPIO, INSPEC, SCISEARCH		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	COMPUTER SWEDEN, Volume, No 73, November 1996, (SWEDEN), ., "Billig Internet-telefoni - via vanliga telefoner" page 12	1-2
A	--	3-6
Y	EP 0598969 A1 (INTERNATIONAL BUSINESS MACHINES CORPORATION), 27 November 1992 (27.11.92), page 5, line 20 - line 43, figures 2,4	1-2
P,Y	WO 9826543 A1 (TELIA AB), 18 June 1998 (18.06.98), page 2, line 19 - page 4, line 20	1-2
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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INTERNATIONAL SEARCH REPORT
Information on patent family members

07/04/99

International application No.
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